



Dkt. 0575/59131/JPW/AJM/APE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Taka-Aki Sato
Serial No.: 09/327,750
Filed : June 7, 1999
For : GENE ENCODING NADE, P75^{NTR}-ASSOCIATED CELL DEATH
EXECUTOR AND USES THEREOF

1185 Avenue of the Americas
New York, New York 10036
October 9, 2001

Assistant Commissioner for Patents
Washington, D.C. 20231

SIR:

STATEMENT IN ACCORDANCE WITH 37 C.F.R.
\$1.821(f) IN CONNECTION WITH ABOVE-IDENTIFIED APPLICATION

In accordance with 37 C.F.R. \$1.821(f), I hereby certify that the enclosed computer readable form (CRF) containing the nucleic acid and/or amino acid sequences required by 37 C.F.R. \$1.821(e) has the same information as the paper copy of the Sequence Listing submitted herewith as **Exhibit B** in connection with the subject application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under \$1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any parent issued thereon.

Respectfully submitted,

Alexander P. Errico
c/o Cooper & Dunham LLP
1185 Avenue of the Americas
New York, New York 10036
(212) 278-0400

RECEIVED

OCT 1 8 2001

TECH CENTER 1600/2900

SEQUENCE LISTING



<120> Sato, Taki-Aki

<120> GENE ENCODING MADE, P75NTR- ASSOCIATED CELL DEATH EXECUTOR AND USES THEREOF

<130> 0575/59131/JPW/APE

<140> 09/827,750

<141> 1999-06-07

<160> 45

<170> PatentIn version 3.0

<210> 1

<211> 36

<212> DNA

<213> MOUSE

<400> 1

aattgtctac gcattcttat gggggagctg tctaac

36

<210> 2

<211> 12

<212> PRT

<213> MOUSE

<400> 2

Asn Cys Leu Arg Ile Leu Met Gly Glu Leu Ser Asn
1 5 10

<210> 3

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> (1)..(30)

<223> Mouse Nade DNA

<400> 3

ctagctagca tcatggtgag caagggcgag

30

<210> 4

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> (1)..(28)

<223> Mouse Nade DNA

<400> 4

ccgctcgagt cttgtacagc tcgtccat 28

<210> 5
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)..(29)
<223> Mouse Nade DNA

<400> 5
atcctcgagc gatcatggcc aatgtccac 29

<210> 6
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> ()..()
<223> Mouse Nade DNA

<400> 6
atcggatcct ctcagctgta gctccct 27

<210> 7
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)..(27)
<223> Mouse Nade DNA

<400> 7
atcggatccg atctctctca tctcctc 27

<210> 8
<211> 27
<212> DNA
<213> Artificial sequence

<220>
<221> misc_feature
<222> (1)..(27)
<223> Mouse Nade DNA

<400> 8
aaagcttagg gaggcacagc tgagaaa 27

<210> 9
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc_feature
 <222> (1)..(27)
 <223> Mouse Nade DNA

<400> 9
 tttctcagct gtgcctccct aagcttt

27

<210> 10
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc_feature
 <222> (1)..(26)
 <223> Mouse Nade DNA

<400> 10
 atccggagaa aggctaggga ggcaca

26

<210> 11
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc_feature
 <222> (1)..(26)
 <223> Mouse Nade DNA

<400> 11
 tgtgcctccc tagcctttct ccggat

26

<210> 12
 <211> 124
 <212> PRT
 <213> MOUSE

<400> 12

Met Ala Asn Val His Gln Glu Asn Glu Glu Met Glu Gln Pro Leu Gln
 1 5 10 15
 Asn Gly Glu Glu Asp Arg Pro Val Gly Gly Gly Glu Gly His Gln Pro
 20 25 30
 Ala Gly Asn Asn Asn Asn Asn Asn His Asn His Asn His Asn His His
 35 40 45

Arg Arg Gly Gln Ala Arg Arg Leu Ala Pro Asn Phe Arg Trp Ala Ile
 50 55 60
 Pro Asn Arg Gln Met Asn Asp Gly Leu Gly Gly Asp Gly Asp Asp Met
 65 70 75 80
 Glu Met Phe Met Glu Glu Met Arg Glu Ile Arg Arg Lys Leu Arg Glu
 85 90 95
 Leu Gln Leu Arg Asn Cys Leu Arg Ile Leu Met Gly Glu Leu Ser Asn
 100 105 110
 His His Asp His His Asp Glu Phe Cys Leu Met Pro
 115 120

<210> 13
 <211> 111
 <212> PRT
 <213> HUMAN

<400> 13

Met Ala Asn Ile His Gln Glu Asn Glu Glu Met Glu Gln Pro Met Gln
 1 5 10 15
 Asn Gly Glu Glu Asp Arg Pro Leu Gly Gly Gly Glu Gly His Gln Pro
 20 25 30
 Ala Gly Asn Arg Arg Gly Gln Ala Arg Arg Leu Ala Pro Asn Phe Arg
 35 40 45
 Trp Ala Ile Pro Asn Arg Gln Ile Asn Asp Gly Met Gly Gly Asp Gly
 50 55 60
 Asp Asp Met Glu Ile Phe Met Glu Glu Met Arg Glu Ile Arg Arg Lys
 65 70 75 80
 Leu Arg Glu Leu Gln Leu Arg Asn Cys Leu Arg Ile Leu Met Gly Glu
 85 90 95
 Leu Ser Asn His His Asp His His Asp Glu Phe Cys Leu Met Pro
 100 105 110

<210> 14
 <211> 13
 <212> PRT
 <213> Mouse

<400> 14

Leu Thr Met Lys Glu Val Glu Glu Leu Glu Leu Leu Thr
 1 5 10

<210> 15
 <211> 13
 <212> PRT
 <213> Mouse

<400> 15

Ala Leu Gln Lys Lys Leu Glu Glu Leu Glu Leu Asp Glu
 1 5 10

<210> 16
 <211> 10
 <212> PRT
 <213> Mouse

<400> 16

Leu Ala Leu Lys Leu Ala Gly Leu Asp Ile
 1 5 10

<210> 17
 <211> 9
 <212> PRT
 <213> Mouse

<400> 17

Leu Pro Val Leu Glu Asn Leu Thr Leu
 1 5

<210> 18
 <211> 9
 <212> PRT
 <213> Mouse

<400> 18

Leu Pro Pro Leu Glu Arg Leu Thr Leu
 1 5

<210> 19
 <211> 12
 <212> PRT
 <213> Mouse

<400> 19

Lys Val Ala Glu Lys Leu Glu Ala Leu Ser Val Arg
 1 5 10

<210> 20
 <211> 13
 <212> PRT
 <213> Mouse

<400> 20

Glu Val Asp Gln Leu Arg Leu Glu Arg Leu Gln Ile Asp
 1 5 10

<210> 21
 <211> 8
 <212> PRT
 <213> Mouse

<400> 21

Leu Pro Leu Gly Lys Leu Thr Leu
 1 5

<210> 22

<211> 14
 <212> PRT
 <213> Mouse

<400> 22

Ala Leu Ser Ala Gln Leu Tyr Ser Ser Leu Ser Leu Asp Ser
 1 5 10

<210> 23
 <211> 13
 <212> PRT
 <213> human

<400> 23

Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln Leu Arg
 1 5 10

<210> 24
 <211> 13
 <212> PRT
 <213> mouse

<400> 24

Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln Leu Arg
 1 5 10

<210> 25
 <211> 27
 <212> PRT
 <213> MOUSE

<400> 25

Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln Leu Arg Asn Cys Leu
 1 5 10 15

Arg Ile Leu Met Gly Glu Leu Ser Asn His His
 20 25

<210> 26
 <211> 27
 <212> PRT
 <213> HUMAN

<400> 26

Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln Leu Arg Asn Cys Leu
 1 5 10 15

Arg Ile Leu Met Gly Glu Leu Ser Asn His His
 20 25

<210> 27
 <211> 8
 <212> PRT
 <213> MOUSE

<400> 27

Arg Leu Leu Asn Arg Leu Leu Asn
1 5

<210> 28
<211> 700
<212> DNA
<213> MOUSE

<400> 28
acgagcgtct ggccagcagc tcggagctcc tctgcgcgcg gcgggctggc agcggggccc 60
aggcgagcgg gacagattga ctggaagccg agagtccagg cggcagcggg aattgacagg 120
aggactacgc cgcaagggat agggcccagaa tagcaaccag gaaacaaaat ctcatcatgg 180
ccaatgtcca ccaggaaaac gaagagctgg agcagcccct gcagaatgga caggaaacc 240
gccctgtggg aggaggtgag ggccaccagc ctgctgcaaa caacaacaac aacaaccaca 300
accataacca caaccaccac cgaagaggcc aggctcgccg accctgcccct aacttccgat 360
gggccattcc caacaggcag atgaatgacg gggtgggtgg agatggagat gatatggaaa 420
tgttcatgga ggagatgaga gagatccgga gaaagcttag ggagctacag ctgagaaatt 480
gtctacgcac ctttatgggg gagctgtcta accaccacga tcaccatgat gaattctgcc 540
ttatgccttg acttcggtca tccccccctg agatccatac tgtgactccc gctgtagccc 600
tttccctcgc attttctga catgccttta atgaccggtt tgtggtgagc cctgtgttat 660
ttccatgcca tgtgccaggt ggggcttgtg ttgccagtga 700

<210> 29
<211> 891
<212> DNA
<213> HUMAN

<400> 29
accccatccc ccactcctat accggtcctc cattttggtg cctgcaaagc tctgggaaag 60
aatcccggga aacgaaaaat ggtgggtttg ggggaaggga ggtaagggga gaaagctgga 120
gggaggggct ttaattggag gccccgtaga ggacgcgcgg aacttctaag gtgggaaaaa 180
acgaaattaa aaaatccttt gatatcaggg ctctgaatcc tgctggtcag agcaccaagc 240
attcagtctc tctccttgcc tttgtcttac ttgtgttcaa agaaaaacaa ccagaaaaaa 300
aaaatctcat catggcaaat attcaccagg aaaacgaaga gatggagcag cctatgcaga 360
atggagagga agaccgccct ttgggaggag gtgaaggcca ccagcctgca ggaaatcgac 420
ggggacaggc tcgccgactt gcccctaatt ttcgatgggc cataccaat aggcagatca 480
atgatgggat ggggtggagat ggagatgata tggaaatatt catggaggag atgagagaaa 540
tcagaagaaa acttagggag ctgcagttga ggaattgtct gcgtatcctt atgggggagc 600
tctctaatac ccatgaccat catgatgaat tttgccttat gccttgactc ctgccattta 660


```

tcatgagatt aatactgtga ttcccgtgt tttctttttc cttgcatttt cctaatatgc      720
ctttactgat ccgtttgctg tgaaccctat gttatttcca tgtgtcaagt gggctcttg      780
ttgccagctt ctatttgaag attgcctttg cactcagtgt aagtttctgt cagcagtagt      840
ttcacccatt tgcattggaaa aatttaaagc caataaagca atttaaaaag c              891

```

<210> 30
 <211> 128
 <212> PRT
 <213> Mouse

<400> 30

```

Met Glu Ser Lys Asp Gln Gly Val Lys Asn Leu Asn Met Glu Asn Asp
1      5      10
His Gln Lys Lys Glu Glu Lys Glu Glu Lys Pro Gln Asp Thr Ile Arg
20     25     30
Arg Glu Pro Ala Val Ala Leu Ile Ser Glu Ala Gly Lys Asn Cys Ala
35     40     45
Pro Arg Gly Gly Arg Arg Arg Phe Arg Val Arg Gln Pro Ile Ala His
50     55     60
Tyr Arg Trp Asp Leu Met Gln Arg Val Gly Glu Pro Gln Gly Arg Met
65     70     75     80
Arg Glu Glu Asn Val Gln Arg Phe Gly Gly Asp Val Arg Gln Leu Met
85     90     95
Glu Lys Leu Arg Glu Arg Gln Leu Ser His Ser Leu Arg Ala Val Ser
100    105    110
Thr Asp Pro Pro His His Asp His His Asp Glu Phe Cys Leu Met Pro
115    120    125

```

<210> 31
 <211> 128
 <212> PRT
 <213> Mouse

<400> 31

```

Met Glu Ser Lys Glu Glu Arg Ala Leu Asn Asn Leu Ile Val Glu Asn
1      5      10      15
Val Asn Gln Glu Asn Asp Glu Lys Asp Glu Lys Glu Gln Val Ala Asn
20     25     30
Lys Gly Glu Pro Leu Ala Leu Pro Leu Asn Val Ser Glu Tyr Cys Val
35     40     45
Pro Arg Gly Asn Arg Arg Arg Phe Arg Val Arg Gln Pro Ile Leu Gln
50     55     60
Tyr Arg Trp Asp Ile Met His Arg Leu Gly Glu Pro Gln Ala Arg Met
65     70     75     80

```

Arg Glu Glu Asn Met Glu Arg Ile Gly Glu Glu Val Arg Gln Leu Met
85 90 95

Glu Lys Leu Arg Glu Lys Gln Leu Ser His Ser Leu Arg Ala Val Ser
100 105 110

Thr Asp Pro Pro His His Asp His His Asp Glu Phe Cys Leu Met Pro
115 120 125

<210> 32
<211> 125
<212> PRT
<213> Mouse

<400> 32

Met Glu Ser Lys Glu Lys Arg Ala Val Asn Ser Leu Ser Met Glu Asn
1 5 10 15

Ala Asn Gln Glu Asn Glu Glu Lys Glu Gln Val Ala Asn Lys Gly Glu
20 25 30

Pro Leu Ala Leu Pro Leu Asp Ala Gly Glu Tyr Cys Val Pro Arg Gly
35 40 45

Asn Arg Arg Arg Phe Pro Val Arg Gln Pro Ile Leu Gln Tyr Arg Trp
50 55 60

Asp Ile Met His Arg Leu Gly Glu Pro Gln Ala Arg Met Arg Glu Glu
65 70 75 80

Asn Met Glu Arg Ile Gly Glu Glu Val Arg Gln Leu Met Glu Lys Leu
85 90 95

Arg Glu Lys Gln Leu Ser His Ser Leu Arg Ala Val Ser Thr Asp Pro
100 105 110

Pro His His Asp His His Asp Glu Phe Cys Leu Met Pro
115 120 125

<210> 33
<211> 128
<212> PRT
<213> RAT

<400> 33

Met Glu Ser Lys Asp Gln Gly Ala Lys Asn Leu Asn Met Glu Asn Asp
1 5 10 15

His Gln Lys Lys Glu Glu Lys Glu Glu Lys Pro Gln Asp Thr Ile Lys
20 25 30

Arg Glu Pro Val Val Ala Pro Thr Phe Glu Ala Gly Lys Asn Cys Ala
35 40 45

Pro Arg Gly Gly Arg Arg Arg Phe Arg Val Arg Gln Pro Ile Ser His
50 55 60

Tyr Arg Trp Asp Leu Met His Arg Val Gly Glu Pro Gln Gly Arg Met
65 70 75 80

Arg Glu Glu Asn Val Gln Arg Phe Gly Glu Asp Met Arg Gln Leu Met
85 90 95

Glu Lys Leu Arg Glu Arg Gln Leu Ser His Ser Leu Arg Ala Val Ser
100 105 110

Thr Asp Pro His His Asp His His Asp Glu Phe Cys Leu Met Pro
115 120 125

<210> 34
<211> 118
<212> PRT
<213> Mouse

<400> 34

Met Ala Ser Lys Val Lys Gln Val Ile Leu Asp Leu Thr Val Glu Lys
1 5 10 15

Asp Lys Lys Asn Lys Lys Gly Gly Lys Ala Ser Lys Gln Ser Glu Glu
20 25 30

Glu Ser His His Leu Glu Glu Val Glu Asn Lys Lys Pro Gly Gly Asn
35 40 45

Val Arg Arg Lys Val Arg Arg Leu Val Pro Asn Phe Leu Trp Ala Ile
50 55 60

Pro Asn Arg His Val Asp His Ser Glu Gly Gly Glu Glu Val Gly Arg
65 70 75 80

Phe Val Gly Gln Val Met Glu Ala Lys Arg His Ser Lys Glu Gln Gln
85 90 95

Met Arg Pro Tyr Thr Arg Phe Arg Thr Pro Glu Pro Asp Asn His Tyr
100 105 110

Asp Phe Cys Leu Ile Pro
115

<210> 35
<211> 117
<212> PRT
<213> Mouse

<400> 35

Met Ala Ser Lys Lys Gln Val Ile Leu Asp Leu Thr Val Glu Lys Asp
1 5 10 15

Lys Lys Asp Lys Arg Gly Gly Lys Ala Ser Lys Gln Ser Glu Glu Glu
20 25 30

Pro His His Leu Glu Glu Val Glu Asn Lys Lys Pro Gly Gly Asn Val
35 40 45

Arg Arg Lys Val Arg Arg Leu Val Pro Asn Phe Leu Trp Ala Ile Pro
50 55 60

Asn Arg His Val Asp Arg Asn Glu Gly Gly Glu Asp Val Gly Arg Phe
65 70 75 80

Val Val Gln Gly Thr Glu Val Lys Arg Lys Thr Thr Glu Gln Gln Val
 85 90 95
 Arg Pro Tyr Arg Arg Phe Arg Thr Pro Glu Pro Asp Asn His Tyr Asp
 100 105 110
 Phe Cys Leu Ile Pro
 115

<210> 36
 <211> 110
 <212> PRT
 <213> Mouse

<400> 36

Met Ala Asn Ile His Gln Glu Asn Glu Glu Met Glu Gln Pro Met Gln
 1 5 10 15
 Asn Gly Glu Glu Asp Arg Pro Leu Gly Gly Gly Glu Gly His Gln Pro
 20 25 30
 Ala Gly Asn Arg Arg Gln Ala Arg Arg Leu Ala Pro Asn Phe Arg Trp
 35 40 45
 Ala Ile Pro Asn Arg Gln Ile Asn Asp Gly Met Gly Gly Asp Gly Asp
 50 55 60
 Asp Met Glu Ile Phe Met Glu Glu Met Arg Glu Ile Arg Arg Lys Leu
 65 70 75 80
 Arg Glu Leu Gln Leu Arg Asn Cys Leu Arg Ile Leu Met Gly Glu Leu
 85 90 95
 Ser Asn His His Asp His His Asp Glu Phe Cys Leu Met Pro
 100 105 110

<210> 37
 <211> 120
 <212> PRT
 <213> Mouse

<400> 37

Met Glu Gln Pro Leu Gln Asn Gly Gln Glu Asp Arg Pro Val Gly Gly
 1 5 10 15
 Gly Glu Gly His Gln Pro Ala Ala Ala Asn Asn Asn Asn His Asn His
 20 25 30
 Asn His His Asn His Ser His Asn His Asn His His Arg Arg Gly Gln
 35 40 45
 Ala Arg Arg Leu Ala Pro Asn Phe Arg Trp Ala Ile Arg Asn Arg Gln
 50 55 60
 Met Asn Asp Gly Leu Gly Gly Asp Gly Asp Asp Met Glu Met Phe Met
 65 70 75 80
 Glu Glu Met Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln Leu Arg
 85 90 95

Asn Cys Leu Arg Ile Leu Met Gly Glu Leu Ser Asn His His Asp His
 100 105 110

His Asp Glu Phe Cys Leu Met Pro
 115 120

<210> 38
 <211> 122
 <212> PRT
 <213> Mouse

<400> 38

Met Ala Asn Val His Gln Glu Asn Glu Glu Met Glu Gln Pro Leu Gln
 1 5 10 15

Asn Gly Gln Glu Asp Arg Pro Val Gly Gly Gly Glu Gly His Gln Pro
 20 25 30

Ala Ala Asn Asn Asn Asn Asn Asn His Asn His Asn His His Arg Arg
 35 40 45

Gly Gln Ala Arg Arg Leu Ala Pro Asn Phe Arg Trp Ala Ile Pro Asn
 50 55 60

Arg Gln Met Asn Asp Gly Leu Gly Gly Asp Gly Asp Asp Met Glu Met
 65 70 75 80

Phe Met Glu Glu Met Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln
 85 90 95

Leu Arg Asn Cys Leu Arg Ile Leu Met Gly Glu Leu Ser Asn His His
 100 105 110

Asp His His Asp Glu Phe Cys Leu Met Pro
 115 120

<210> 39
 <211> 111
 <212> PRT
 <213> Mouse

<400> 39

Met Glu Asn Val Pro Lys Glu Asn Lys Val Val Glu Lys Ala Pro Val
 1 5 10 15

Gln Asn Glu Ala Pro Ala Leu Gly Gly Gly Glu Tyr Gln Glu Pro Gly
 20 25 30

Gly Asn Val Lys Gly Val Trp Ala Pro Pro Ala Pro Gly Phe Gly Glu
 35 40 45

Asp Val Pro Asn Arg Leu Val Asp Asn Ile Asp Met Ile Asp Gly Asp
 50 55 60

Gly Asp Asp Met Glu Arg Phe Met Glu Glu Met Arg Glu Leu Arg Arg
 65 70 75 80

Lys Ile Arg Glu Leu Gln Leu Arg Tyr Ser Leu Arg Ile Leu Ile Gly
 85 90 95

Asp Pro Pro His His Asp His His Asp Glu Phe Cys Leu Met Pro
 100 105 110

<210> 40
 <211> 13
 <212> PRT
 <213> MOUSE

<400> 40

Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln Leu Arg
 1 5 10

<210> 41
 <211> 13
 <212> PRT
 <213> HUMAN

<400> 41

Arg Glu Ile Arg Arg Lys Leu Arg Glu Leu Gln Leu Arg
 1 5 10

<210> 42
 <211> 10
 <212> PRT
 <213> Mouse

<400> 42

Leu Pro Pro Leu Glu Arg Leu Thr Leu Asp
 1 5 10

<210> 43
 <211> 12
 <212> PRT
 <213> MOUSE

<400> 43

Ala Leu Gln Lys Lys Leu Glu Glu Leu Glu Leu Asp
 1 5 10

<210> 44
 <211> 12
 <212> PRT
 <213> Mouse

<400> 44

Leu Thr Met Lys Glu Val Glu Glu Leu Glu Leu Leu
 1 5 10

<210> 45
 <211> 10
 <212> PRT
 <213> Mouse

<400> 45

Leu Ala Leu Lys Leu Ala Gly Leu Asp Ile
 1 5 10

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☒ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☐ 7. Other: _____

Applicant Must Provide:

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216

For CRF Submission Help, call (703) 308-4212

PatentIn Software Program Support (SIRA)

Technical Assistance.....703-287-0200

To Purchase PatentIn Software.....703-306-2600

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE